

### AMENDMENTS TO THE CLAIMS

1 (Currently amended). A three dimensional periodic structure, comprising:

two substances having different dielectric constants periodically distributed in a three dimensional space, wherein at least one of said substances is a solid, and

a conductive film having independent conductive particles or clusters of a plurality of conductive particles coarsely distributed therein ~~a surface resistivity of about 0.3  $\Omega$ /square or more at an interface between the two substances.~~

2 (Currently amended) A three dimensional periodic structure according to claim 1, wherein ~~independent conductive particles or clusters of a plurality of conductive particles are coarsely distributed in~~ the conductive film has a surface resistivity of about 0.3  $\Omega$ /square or more at an interface between the two substances.

3 (Previously presented). A three dimensional periodic structure according to claim 2, wherein the conductive film comprises a conductive material having a conductivity of about  $10^3$  S/cm or more.

4 (Original). A three dimensional periodic structure according to claim 3, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

5 (Previously presented). A three dimensional periodic structure according to claim 2, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

6 (Previously presented). A three dimensional periodic structure according to claim 2, wherein the conductive film comprises Cu, Ni or InSb.

7 (Previously presented). A three dimensional periodic structure according to claim 2, wherein one of the two substances is air and is disposed so as to have a diamond shape.

8 (Withdrawn). A method of producing a three dimensional periodic structure comprising irradiating light onto a light-hardening resin layer in cross-sectional pattern to form a layer of three dimensional periodic structure according to claim 1, and then, at least once, causing a layer of light-hardening resin to contact the resulting irradiated structure and repeating the irradiation.

9 (Previously presented). A three dimensional periodic structure according to claim 1, wherein the conductive film comprises a conductive material having a conductivity of about  $10^3$  S/cm or more.

10 (Previously presented). A three dimensional periodic structure according to claim 9, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

11 (Previously presented). A three dimensional periodic structure according to claim 1, wherein the conductive film is an electroless plating film on a surface of at least one of the two substances.

12 (Previously presented). A three dimensional periodic structure according to claim 1, wherein the conductive film comprises Cu, Ni or InSb.

13 (Previously presented). A three dimensional periodic structure according to claim 1, wherein one of the two substances is air and is disposed so as to have a diamond shape.